

Attorney's Docket No.: 42P19252PatentFirst Named Inventor: Himanshu PokharnaCheck One:

☒ Declaration Submitted with  
Initial Filing OR  
☐ Declaration Submitted After  
Initial Filing (Surcharge under  
37 C.F.R. § 1.16(e) Required).

Complete If Known:

Application No.: \_\_\_\_\_  
Filing Date: \_\_\_\_\_  
Art Unit: \_\_\_\_\_  
Examiner Name: \_\_\_\_\_

**DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION**  
**(FOR INTEL CORPORATION PATENT APPLICATIONS)**

As a below named inventor, I hereby declare that:

My residence, mailing address, and citizenship are as stated below next to my name.

I believe I am the original, first, and sole inventor (if only one name is listed below) or an original, first, and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

Methods to Improve Heat Exchanger Performance in Liquid Cooling Loops

\_\_\_\_\_

\_\_\_\_\_

the specification of which

☒ is attached hereto.  
☐ was filed on (MM/DD/YYYY) \_\_\_\_\_ as  
United States Application Number \_\_\_\_\_  
or PCT International Application Number \_\_\_\_\_  
and was amended on (MM/DD/YYYY) \_\_\_\_\_.  
(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment specifically referred to above.

I do not know and do not believe that the claimed invention was ever known or used in the United States of America before my invention thereof, or patented or described in any printed publication in any country before my invention thereof or more than one year prior to this application. I do not know and do not believe that the claimed invention was in public use or on sale in the United States of America more than one year prior to this application, nor do I know or believe that the invention has been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months (for a utility patent application) or six months (for a design patent application) prior to this application.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

-2-

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of Sole/First Inventor Himanshu Pokharna

Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_

Residence San Jose, California, U.S.A. Citizenship India  
(City, State, Country) (Country)

Mailing Address 439 Camille Circle Unit 13  
San Jose, California 95134

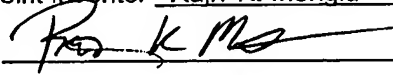
Full Name of Second/Joint Inventor Eric DiStefano

Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_

Residence Livermore, California, U.S.A. Citizenship U.S.A.  
(City, State, Country) (Country)

Mailing Address 1535 Frankfurt Way  
Livermore, California 94550

Full Name of Third/Joint Inventor Rajiv K. Mongia

Inventor's Signature  Date 3/30/2004

Residence Portland, Oregon, U.S.A. Citizenship U.S.A.  
(City, State, Country) (Country)

Mailing Address 21086 Galice Lane  
Portland, Oregon 97229

Full Name of Fourth/Joint Inventor \_\_\_\_\_

Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_

Residence \_\_\_\_\_ Citizenship \_\_\_\_\_  
(City, State, Country) (Country)

Mailing Address \_\_\_\_\_

INTEL CORPORATION

Rev. 11/26/02 (D3 INTEL)



# APPENDIX A

Ramin Aghevli, Reg. No. 43,462; William E. Alford, Reg. No. 37,764; Farzad E. Amini, Reg. No. 42,261; W. Thomas Babbitt, Reg. No. 39,591; Jordan M. Becker, Reg. No. 39,602; Michael A. Bernadicou, Reg. No. 35,934; Roger W. Blakely, Jr., Reg. No. 25,831; R. Alan Burnett, Reg. No. 46,149; Gregory D. Caldwell, Reg. No. 39,926; Thomas M. Coester, Reg. No. 39,637; Florin A. Corie, Reg. No. 46,244; Mimi D. Dao, Reg. No. 45,628; Stephen M. De Klerk, Reg. No. 46,503; Daniel M. De Vos, Reg. No. 37,813; Sanjeet Dutta, Reg. No. 46,145; Tarek N. Fahmi, Reg. No. 41,402; Thomas S. Ferrill, Reg. No. 42,532; George L. Fountain, Reg. No. 36,374; Adam Furst, Reg. No. 51,710; Angelo J. Gaz, Reg. No. 45,907; Andre M. Gibbs, Reg. No. 47,593; James Y. Go, Reg. No. 40,621; Melissa A. Haapala, Reg. No. 47,622; Alan E. Heimlich, Reg. No. 48,808; James A. Henry, Reg. No. 41,064; William E. Hickman, Reg. No. 46,771; Willmore F. Holbrow III, Reg. No. 41,845; Sheryl Sue Holloway, Reg. No. 37,850; George W. Hoover II, Reg. No. 32,992; Libby H. Hope, Reg. No. 46,774; Eric S. Hyman, Reg. No. 30,139; Aslam A. Jaffrey, Reg. No. 51,841; William W. Kidd, Reg. No. 31,772; Walter T. Kim, Reg. No. 42,731; Eric T. King, Reg. No. 44,188; Steve Laut, Reg. No. 47,736; Suk S. Lee, Reg. No. 47,745; Gordon R. Lindeen III, Reg. No. 33,192; Jan C. Little, Reg. No. 41,181; Julio Loza, Reg. No. 47,758; Joseph Lutz, Reg. No. 43,765; Lawrence E. Lycke, Reg. No. 38,540; Michael J. Mallie, Reg. No. 36,591; Andre L. Marais, Reg. No. 48,095; Raul D. Martinez, Reg. No. 46,904; Paul A. Mendonsa, Reg. No. 42,879; Jonathan S. Miller, Reg. No. 48,534; Richard A. Nakashima, Reg. No. 42,023; Thien T. Nguyen, Reg. No. 43,835; Thinh V. Nguyen, Reg. No. 42,034; Robert B. O'Rourke, Reg. No. 46,972; Daniel E. Ovanezian, Reg. No. 41,236; Gregg A. Peacock, Reg. No. 45,001; Philip A. Pedigo, Reg. No. 52,107; Marina Portnova, Reg. No. 45,750; Joseph A. Pugh, Reg. No. 52,137; James H. Salter, Reg. No. 35,668; William W. Schaal, Reg. No. 39,018; James C. Scheller, Reg. No. 31,195; Saina S. Shamilov, Reg. No. 48,266; Kevin G. Shao, Reg. No. 45,095; Stanley W. Sokoloff, Reg. No. 25,128; Judith A. Szepesi, Reg. No. 39,393; Edwin H. Taylor, Reg. No. 25,129; Lisa Tom, Reg. No. 52,291; John F. Travis, Reg. No. 43,203; Kerry D. Tweet, Reg. No. 45,959; Mark C. Van Ness, Reg. No. 39,865; Thomas A. Van Zandt, Reg. No. 43,219; Lester J. Vincent, Reg. No. 31,460; Glenn E. Von Tersch, Reg. No. 41,364; John P. Ward, Reg. No. 40,216; Mark L. Watson, Reg. No. 46,322; Thomas C. Webster, Reg. No. 46,154; and Norman Zafman, Reg. No. 26,250; my patent attorneys, and William J. Daley, Reg. No. P-52,471; Brent E. Vecchia, Reg. No. 48,011, and Lehua Wang, Reg. No. 48,023; my patent agents, of BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP, with offices located at 12400 Wilshire Boulevard, 7th Floor, Los Angeles, California 90025, telephone (408) 720-8300, and Alan K. Aldous, Reg. No. 31,905; Shireen I. Bacon, Reg. No. 40,494; R. Edward Brake, Reg. No. 37,784; Ben Burge, Reg. No. 42,372; Robert A. Burtzlaff, Reg. No. 35,466; Glen B. Choi, Reg. No. 43,546; Kenneth Cool, Reg. No. 40,570; Jeffrey S. Draeger, Reg. No. 41,000; Cynthia Thomas Faatz, Reg. No. 39,973; Christopher Gagne, Reg. No. 36,142; Sharmini N. Green, Reg. No. 41,410; Robert Greenberg, Reg. No. 44,133; Bradley Greenwald, Reg. No. 34,341; Jeffrey B. Huter, Reg. No. 41,086; John Kacvinsky, Reg. No. 40,040; Seth Z. Kalson, Reg. No. 40,670; Peter Lam, Reg. No. 44,855; Issac T. Lin, Reg. No. 50,672; David C. Lundmark, Reg. No. 42,815; Anthony Martinez, Reg. No. 44,223; Paul Nagy, Reg. No. 37,896; Dennis A. Nicholls, Reg. No. 42,036; Leo V. Novakoski, Reg. No. 37,198; Michael Proksch, Reg. No. 43,021; Kevin A. Reif, Reg. No. 36,381; Thomas C. Reynolds, Reg. No. 32,488; Crystal D. Sayles, Reg. No. 44,318; Kenneth M. Seddon, Reg. No. 43,105; Mark Seeley, Reg. No. 32,299; Steven P. Skabrat, Reg. No. 36,279; Howard A. Skaist, Reg. No. 36,008; Paul E. Steiner, Reg. No. 41,326; David Tran, Reg. No. 50,804; Calvin E. Wells, Reg. No. 43,256; Michael Willardson, Reg. No. 50,856; Robert G. Winkle, Reg. No. 37,474; Sharon Wong, Reg. No. 37,760; Steven D. Yates, Reg. No. 42,242; and Charles K. Young, Reg. No. 39,435; my patent attorneys, and George Chen, Reg. No. 50,807; Issac Lin, Reg. No. 50,672; Larry Mennemeier, Reg. No. 51,003; and Lanny Parker, Reg. No. 44,281; my patent agents, of INTEL CORPORATION; and James R. Thein, Reg. No. 31,710, my patent attorney.

Attorney's Docket No.: 42P19252PatentFirst Named Inventor: Himanshu Pokharna

Check One:

☒ Declaration Submitted with  
Initial Filing OR  
☐ Declaration Submitted After  
Initial Filing (Surcharge under  
37 C.F.R. § 1.16(e) Required).

Complete If Known:

Application No.: \_\_\_\_\_  
Filing Date: \_\_\_\_\_  
Art Unit: \_\_\_\_\_  
Examiner Name: \_\_\_\_\_

**DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION**  
**(FOR INTEL CORPORATION PATENT APPLICATIONS)**

As a below named inventor, I hereby declare that:

My residence, mailing address, and citizenship are as stated below next to my name.

I believe I am the original, first, and sole inventor (if only one name is listed below) or an original, first, and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

Methods to Improve Heat Exchanger Performance in Liquid Cooling Loops

the specification of which

☒ is attached hereto.  
☐ was filed on (MM/DD/YYYY) \_\_\_\_\_ as  
United States Application Number \_\_\_\_\_  
or PCT International Application Number \_\_\_\_\_  
and was amended on (MM/DD/YYYY) \_\_\_\_\_  
(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment specifically referred to above.

I do not know and do not believe that the claimed invention was ever known or used in the United States of America before my invention thereof, or patented or described in any printed publication in any country before my invention thereof or more than one year prior to this application. I do not know and do not believe that the claimed invention was in public use or on sale in the United States of America more than one year prior to this application, nor do I know or believe that the invention has been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months (for a utility patent application) or six months (for a design patent application) prior to this application.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

INTEL CORPORATION.

Rev. 11/26/02 (D3 INTEL)

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed:

<u>Prior Foreign Application(s)</u>			<u>Priority Claimed?</u>		<u>Certified Copy Attached?</u>	
<u>(Number)</u>	<u>(Country)</u>	<u>(Foreign Filing Date - MM/DD/YYYY)</u>	<u>Yes</u>	<u>No</u>	<u>Yes</u>	<u>No</u>
<u>(Number)</u>	<u>(Country)</u>	<u>(Foreign Filing Date - MM/DD/YYYY)</u>	<u>Yes</u>	<u>No</u>	<u>Yes</u>	<u>No</u>
<u>(Number)</u>	<u>(Country)</u>	<u>(Foreign Filing Date - MM/DD/YYYY)</u>	<u>Yes</u>	<u>No</u>	<u>Yes</u>	<u>No</u>
<u>(Number)</u>	<u>(Country)</u>	<u>(Foreign Filing Date - MM/DD/YYYY)</u>	<u>Yes</u>	<u>No</u>	<u>Yes</u>	<u>No</u>

I hereby appoint the persons listed on Appendix A hereto (which is incorporated by reference and a part of this document) as my respective patent attorneys and patent agents, with full power of substitution and revocation, to prosecute this application and to transact all business in the U. S. Patent and Trademark Office connected herewith.

**Direct all correspondence to (check one):**

Customer Number or Bar Code Label \_\_\_\_\_ OR \_\_\_\_\_

X... Correspondence Address Below:

**Edwin H. Taylor**  
(Name of Attorney or Agent)  
**BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP**  
**12400 Wilshire Boulevard**  
**Seventh Floor**  
**Los Angeles, California 90025**  
**Telephone: (408) 720-8300**  
**Fax: (408) 720-8383**

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of Sole/First Inventor Himanshu Pokharna

Inventor's Signature Himanshu Pokharna Date March 30, 2004

Residence San Jose, California, U.S.A. Citizenship India  
(City, State, Country) (Country)

Mailing Address 439 Camille Circle Unit 13  
San Jose, California 95134

Full Name of Second/Joint Inventor Eric DiStefano

Inventor's Signature Eric DiStefano Date March 30, 2004

Residence Livermore, California, U.S.A. Citizenship U.S.A.  
(City, State, Country) (Country)

Mailing Address 1535 Frankfurt Way  
Livermore, California 94550

Full Name of Third/Joint Inventor Rajiv K. Mongia

Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_

Residence Portland, Oregon, U.S.A. Citizenship U.S.A.  
(City, State, Country) (Country)

Mailing Address 21086 Galice Lane  
Portland, Oregon 97229

Full Name of Fourth/Joint Inventor \_\_\_\_\_

Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_

Residence \_\_\_\_\_ Citizenship \_\_\_\_\_  
(City, State, Country) (Country)



Mailing Address \_\_\_\_\_  
\_\_\_\_\_

APPENDIX A

Ramin Aghevli, Reg. No. 43,462; William E. Alford, Reg. No. 37,764; Farzad E. Amini, Reg. No. 42,261; W. Thomas Babbitt, Reg. No. 39,591; Jordan M. Becker, Reg. No. 39,602; Michael A. Bernadicou, Reg. No. 35,934; Roger W. Blakely, Jr., Reg. No. 25,831; R. Alan Burnett, Reg. No. 46,149; Gregory D. Caldwell, Reg. No. 39,926; Thomas M. Coester, Reg. No. 39,637; Florin A. Corie, Reg. No. 46,244; Mimi D. Dao, Reg. No. 45,628; Stephen M. De Klerk, Reg. No. 46,503; Daniel M. De Vos, Reg. No. 37,813; Sanjeet Dutta, Reg. No. 46,145; Tarek N. Fahmi, Reg. No. 41,402; Thomas S. Ferrill, Reg. No. 42,532; George L. Fountain, Reg. No. 36,374; Adam Furst, Reg. No. 51,710; Angelo J. Gaz, Reg. No. 45,907; Andre M. Gibbs, Reg. No. 47,593; James Y. Go, Reg. No. 40,621; Melissa A. Haapala, Reg. No. 47,622; Alan E. Heimlich, Reg. No. 48,808; James A. Henry, Reg. No. 41,064; William E. Hickman, Reg. No. 46,771; Willmore F. Holbrow III, Reg. No. 41,845; Sheryl Sue Holloway, Reg. No. 37,850; George W. Hoover II, Reg. No. 32,992; Libby H. Hope, Reg. No. 46,774; Eric S. Hyman, Reg. No. 30,139; Aslam A. Jaffrey, Reg. No. 51,841; William W. Kidd, Reg. No. 31,772; Walter T. Kim, Reg. No. 42,731; Eric T. King, Reg. No. 44,188; Steve Laut, Reg. No. 47,736; Suk S. Lee, Reg. No. 47,745; Gordon R. Lindeen III, Reg. No. 33,192; Jan C. Little, Reg. No. 41,181; Julio Loza, Reg. No. 47,758; Joseph Lutz, Reg. No. 43,765; Lawrence E. Lycke, Reg. No. 38,540; Michael J. Mallie, Reg. No. 36,591; Andre L. Marais, Reg. No. 48,095; Raul D. Martinez, Reg. No. 46,904; Paul A. Mendonsa, Reg. No. 42,879; Jonathan S. Miller, Reg. No. 48,534; Richard A. Nakashima, Reg. No. 42,023; Thien T. Nguyen, Reg. No. 43,835; Thinh V. Nguyen, Reg. No. 42,034; Robert B. O'Rourke, Reg. No. 46,972; Daniel E. Ovanezian, Reg. No. 41,236; Gregg A. Peacock, Reg. No. 45,001; Philip A. Pedigo, Reg. No. 52,107; Marina Portnova, Reg. No. 45,750; Joseph A. Pugh, Reg. No. 52,137; James H. Salter, Reg. No. 35,668; William W. Schaal, Reg. No. 39,018; James C. Scheller, Reg. No. 31,195; Saina S. Shamilov, Reg. No. 48,266; Kevin G. Shao, Reg. No. 45,095; Stanley W. Sokoloff, Reg. No. 25,128; Judith A. Szepesi, Reg. No. 39,393; Edwin H. Taylor, Reg. No. 25,129; Lisa Tom, Reg. No. 52,291; John F. Travis, Reg. No. 43,203; Kerry D. Tweet, Reg. No. 45,959; Mark C. Van Ness, Reg. No. 39,865; Thomas A. Van Zandt, Reg. No. 43,219; Lester J. Vincent, Reg. No. 31,460; Glenn E. Von Tersch, Reg. No. 41,364; John P. Ward, Reg. No. 40,216; Mark L. Watson, Reg. No. 46,322; Thomas C. Webster, Reg. No. 46,154; and Norman Zafman, Reg. No. 26,250; my patent attorneys, and William J. Daley, Reg. No. P-52,471; Brent E. Vecchia, Reg. No. 48,011, and Lehua Wang, Reg. No. 48,023; my patent agents, of BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP, with offices located at 12400 Wilshire Boulevard, 7th Floor, Los Angeles, California 90025, telephone (408) 720-8300, and Alan K. Aldous, Reg. No. 31,905; Shireen I. Bacon, Reg. No. 40,494; R. Edward Brake, Reg. No. 37,784; Ben Burge, Reg. No. 42,372; Robert A. Burtzlaff, Reg. No. 35,466; Glen B. Choi, Reg. No. 43,546; Kenneth Cool, Reg. No. 40,570; Jeffrey S. Draeger, Reg. No. 41,000; Cynthia Thomas Faatz, Reg. No. 39,973; Christopher Gagne, Reg. No. 36,142; Sharmini N. Green, Reg. No. 41,410; Robert Greenberg, Reg. No. 44,133; Bradley Greenwald, Reg. No. 34,341; Jeffrey B. Huter, Reg. No. 41,086; John Kacvinsky, Reg. No. 40,040; Seth Z. Kalson, Reg. No. 40,670; Peter Lam, Reg. No. 44,855; Issac T. Lin, Reg. No. 50,672; David C. Lundmark, Reg. No. 42,815; Anthony Martinez, Reg. No. 44,223; Paul Nagy, Reg. No. 37,896; Dennis A. Nicholls, Reg. No. 42,036; Leo V. Novakoski, Reg. No. 37,198; Michael Proksch, Reg. No. 43,021; Kevin A. Reif, Reg. No. 36,381; Thomas C. Reynolds, Reg. No. 32,488; Crystal D. Sayles, Reg. No. 44,318; Kenneth M. Seddon, Reg. No. 43,105; Mark Seeley, Reg. No. 32,299; Steven P. Skabrat, Reg. No. 36,279; Howard A. Skaist, Reg. No. 36,008; Paul E. Steiner, Reg. No. 41,326; David Tran, Reg. No. 50,804; Calvin E. Wells, Reg. No. 43,256; Michael Willardson, Reg. No. 50,856; Robert G. Winkle, Reg. No. 37,474; Sharon Wong, Reg. No. 37,760; Steven D. Yates, Reg. No. 42,242; and Charles K. Young, Reg. No. 39,435; my patent attorneys, and George Chen, Reg. No. 50,807; Issac Lin, Reg. No. 50,672; Larry Mennemeier, Reg. No. 51,003; and Lanny Parker, Reg. No. 44,281; my patent agents, of INTEL CORPORATION; and James R. Thein, Reg. No. 31,710, my patent attorney.

INTEL CORPORATION

Rev. 11/26/02 (D3 INTEL)